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10/663,534	09/16/2003	Sathya R. Narayanan	MATI-224US	3592
23122	7590	06/04/2007	EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/663,534	Applicant(s) NARAYANAN ET AL.	
	Examiner Aung T. Win	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 14-20 is/are rejected.
- 7) ☒ Claim(s) 7-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. 60/319745, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for Claims 7-10 of this application. Regarding Claims 7-10, Examiner cannot find any support in the prior-filed application, Application No. 60/319745 comprising claimed transmitting, receiving, storing and processing steps of Claim 7 and claimed processing, transmitting, receiving steps of Claim 9. Examiner requests the applicant specify the drawing, page, column or line number, which support the claim limitations as cited in Claims 7-10 in the disclosure of the prior-filed application, Application No. 60/319745.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 9 recites, receiving the data message at **at least one** immediate down stream neighboring wireless device. The claim limitation appear to imply that the data message is intended to be received by more than one immediate down stream neighboring wireless device. Examiner requests the applicant specify the drawing, page, column or line number, which support the claim limitation i.e., the data message is received at at least one immediate down stream neighboring wireless device. Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6,14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US006982960B2) in view of Garcia-Luna-Aceves et al. (US007046639B2), in view of Ebata et al. (US20020137459A1).

1.1 Regarding Claims 1 & 19, Lee discloses a data communication method for use in wireless network [network 100: See Figures] [Column 3, Line 3-19] having Root Node 350 [Figure 8], the method comprising the steps of:

Determining a DEPTH (claimed level) [Figure 8] for each of a plurality of nodes (i.e., wireless devices) of the wireless network with respect to the Root Node [Column 3, Line 63- Column 4, Line 8] [Also see constructing network 100 with one Root Node i.e., parent node in Figures 4, 5, 6 & 7 and respective disclosures];

Determining for each of the plurality of wireless devices neighboring ones of the plurality of wireless devices having adjacent DEPTHS (adjacent levels) [See Parent & Child nodes: Figure 8]; and

Lee does not explicitly teach that Root Node as disclosed above is an access point and claimed processing step.

Garcia discloses multi-hop wireless network and method for routing messages as claimed wherein the method teaches that central node is an access point [Figure 4] [Column 5, Line 45- Column 6, Line 25].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to modify Lee's method such that the Rood Node is

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designated as an access point as taught by Garcia. One of ordinary skill in the art at the time of invention of made to do this to utilize the common channel within the network comprising one Root Node i.e., access point [Garcia: Column 6, Line 2].

Modified method does not explicitly teach the claimed processing step however, it is obvious to one of ordinary skill in the art the data message must include claimed addresses in order to forward the data message from the source to destination in multi-hop communications network environment as modified above. Ebata also discloses multi-hop wireless communication network comprising populating data message with claimed addresses. Ebata teaches processing a data message for transmission from Mobile device 21 to upstream Base Node-11 (Figure 1),

the mobile device 21 populating an original source address and an immediate transmitter address of the data message with a source address corresponding to the mobile device 21 [Original source address in SA field and Immediate transmitter address in NTA field with Mobile device 21 address: Figure 5A] and populating an immediate recipient address of the data message with upstream neighbor address corresponding to the an immediate upstream neighboring wireless device [Immediate recipient address in NRA field with upstream neighbor Base Node-11 address: Figure 5A].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to set the appropriate addresses to message data field as taught by Ebata to modify as claimed. One of ordinary skill in the art at the time of

invention of made to do efficiently route the message from source to destination in multi-hop wireless network.

1.2 Claim 2 is rejected for the same reason as stated above in Claim 1 rejection.

Modified method further teaches the level determining step comprises at least the steps of: at each wireless device in the wireless network, sending a broadcast message; receiving broadcast messages from neighboring ones of the plurality of wireless devices, the broadcast messages indicating a neighbor level for each of the neighboring wireless devices; and determining the level for the wireless device responsive to the neighbor levels [Lee: Setting DEPTH for the node: Column 4, Line 9 – 58] [Lee: Block 471 in Figure 4]

1.3 Claim 3 & 20 are rejected for the same reason as stated above in Claims 1 & 2 rejections. Modified method further teaches the step of determining the level for the wireless device responsive to the neighbor levels comprises:

Building a neighbor status database including the neighboring levels from the received broadcast messages (i.e., Range List comprising information about the DEPTH of the neighbor) [Lee: Column 3, Line 48-60];

Identifying the neighboring level having a lowest initialized value (i.e., minimum depth) [Lee: Column 4, Line 50-54]; and assigning a level one greater than the neighboring level having the lowest initialized value (minimum depth plus one) [Lee: Block 471 in Figure 4].

1.4 Regarding Claims 4 & 18, modified method discloses periodically updating neighboring status database i.e., range list as stated above in Claim 3 rejection [updating range list: Figure 4].

1.5 Claim 5 is rejected for the same reason as stated above in Claims 1 rejection. Modified method further teaches the step comprising updating the level for each of the plurality wireless devices at a predefined interval [Column 5, Line 60-65] [See Figure 9].

1.6 Claim 6 is rejected for the same reason as stated above in Claim 1 rejection. Modified method teaches claimed step because modified network is multi-hop ad-hoc network employing routing messages sequentially [Transferring data messages between one of the plurality of wireless devices and the Root Node sequentially by level through at least one other one of the plurality of wireless devices (i.e., transferring up streams and down streams data message to and from the Root Note via successive adjacent DEPTHS: Figure 16)].

1.7 Claims 14 & 16 are rejected for the same reason as stated above in Claims 1 & 2 rejections because executing steps corresponding to claimed means substantially close to corresponding steps of Claims 1 & 2 methods. At the time of invention of made, it is obvious to one of ordinary skill in the art that wireless devices in modified system must

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have claimed transceiver, claimed controller and memory accordingly in order to process and store information as claimed.

1.8 Claim 15 is rejected for the same reason as stated above in Claim 3 rejection because executing steps corresponding to claimed means substantially close to corresponding steps of Claim 3.

1.9 Claim 17 is an apparatus claim rejected for the same reason as stated above in Claim 1 rejection because claimed means comprises claimed steps substantially close to corresponding step of Claim 1. It is obvious to one of ordinary skill in the art that, modified system must have comprise corresponding claimed means in order to execute claimed steps as stated above in Claim 1 rejection.

Allowable Subject Matter

Claims 7-10 are objected to as being dependent upon a rejected base claim 1, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and comply with the requirements of the first paragraph of 35 U.S.C. 112 for the benefit of a prior-filed application stated above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen	US006744740B2
Srikrishna et al.	US007031293B1
Shearer, III	US20030058826A1

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aung T. Win whose telephone number is (571) 272-7549. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Group Art Unit 2617
May 29, 2007


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